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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/375,615	08/17/99	WANG Y	B-1482

IM62/0829

STEPHEN R MAY K1-53
INTELLECTUAL PROPERTY SERVICES
BATTELLE MEMORIAL INSTITUTE
PACIFIC NORTHWEST DIVISION PO BOX 999
RICHLAND WA 99352

EXAMINER	
YILDIRIM,B	
ART UNIT	**PAPER NUMBER**
1764	3

DATE MAILED: 08/29/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/375,615	Wang et al.
Examiner	**Group Art Unit**
Bekir L. Yildirim	1764

☐ Responsive to communication(s) filed on _____ .

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *three* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-9* is/are pending in the application.

Of the above, claim(s) *8 and 9* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-7* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____ .

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *2*

☒ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-7, drawn to a steam reforming process, classified in class 208, subclass 130 and others.

   II. Claims 8 and 9, drawn to a catalyst composition, classified in class 502, subclass 325+.

2. The inventions are distinct, each from the other because of the following reasons: Inventions II and I are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process such as hydrogenation/dehydrogenation.

3. Because these inventions are distinct for the reasons given above, have acquired a separate status in the art as shown by their different classification, and because of their recognized divergent subject matter, and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Stephen May on August 25, 2000 a provisional election was made with traverse to prosecute the invention of I, claims 1-7. Affirmation of this election must be made by applicant in replying to this Office action. Claims 8 and 9 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification fails to enable an artisan with ordinary skill on how to make and use the claimed invention with undue experimentation. There exists no teaching on under what conditions

the comparison is performed. The claims require a complete description of all the conditions under which the 0.1 or less residence time is to be achieved. The claims have an anonymous hydrocarbon an anonymous spinel and an unknown "forming" the results are compared to, leaving the determination and even the definition of the limitations in the claims to the practitioner.

The claims include as part of the invention a test criteria, i.e. a certain result achievable by the use and a comparative value. It is then incumbent upon the inventor to provide the practitioner with an enabling disclosure to ascertain these. The claims also require the determination of "maintaining activity" in hours but it is not known at what point the "activity" would end. If the applicant is in the opinion that these are standard terminology and the artisan would readily know the basis, the burden is on the applicant to provide showing to such effect.

See the standards for determining whether the specification meets the enablement requirement in the Supreme Court decision of Mineral Séparation v. Hyde,242 U.S. 261, 270 (1916).

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: The conditions under which the comparison "forming" is performed. The claims appear to be leaving the determination of the "metes and bounds" of the

invention to the practitioner. Similarly it is not known how the applicant measures "maintaining activity" in hours since no definition appears in the claims.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rostrup-Nielsen et al. (USP 3,926,583) or Bhattacharyya et al. (USP 5,399,537) or Stahl et al. (USP 4,678,600).

Rostrup-Nielsen teaches a steam reforming process employing a spinel catalyst under 600 to 1000 C of temperature and O:C of 0.8 to 10 depending on the desired product. In the

experiments, the catalyst remains "active" for several hundred hours (see col. 9, line 55 - col. 10, line 45).

Stahl et al. also teaches a steam reforming process with a catalyst having a spinel support, 750 to 900 C of temperature and steam to carbon ratio of 1.1 to 7, depending on the desired product (see col. 3).

Bhattacharyya et al. also teaches steam reforming process employing a catalyst with spinel support under a temperature of 600 to 900 C and a steam: C ratio of less than 2:1 (see col. 8, lines 5-10, col. 11, lines 30-50, col. 12, lines 40-45, col. 13, lines 9-20).

It is acknowledged that the references fail to disclose the claimed residence time. The invention as a whole however would have been obvious to one having ordinary skill since it would be fully within the discretion of the artisan to select reaction conditions for the sole purpose of minimizing the residence time. The claims call for the production of "at least one product". Incomplete reactions also produce at least one product. The artisan equipped with the knowledge of process economics and required product requirements would be motivated to employ further purification steps when such are called for. One of ordinary skill in the art is one who is presumed to know something about the art apart from what the references alone teach In re Bode, 193 USPQ 12 (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with desired product properties (In re Clinton, 188 USPQ 365 (367), CCPA 1976 and In re Thompson, 192 USPQ 275 (277), CCPA 1976).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bekir L. Yildirim whose telephone number is (703) 308-3586. The examiner can normally be reached on weekdays from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode, can be reached on (703) 308-4311. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-6078.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0611.

B.L.Y.
March 1, 2000

Bekir L. Yildirim
Primary Examiner